Name:

at1113exam: Expand, factor, and solve quadratics (v326)

1. Expand the following expression into standard form.

$$(8x + 9)(8x - 9)$$

$$64x^2 - 72x + 72x - 81$$
$$64x^2 - 81$$

2. Solve the equation.

$$(4x + 5)(3x + 2) = 0$$

$$x = \frac{-5}{4} \qquad x = \frac{-2}{3}$$

3. Expand the following expression into standard form.

$$(5x + 4)^2$$

$$25x^2 + 20x + 20x + 16$$
$$25x^2 + 40x + 16$$

4. Expand the following expression into standard form.

$$(6x - 5)(8x - 7)$$

$$48x^2 - 42x - 40x + 35$$
$$48x^2 - 82x + 35$$

5. Factor the expression.

$$25x^2 - 64$$

$$(5x - 8)(5x + 8)$$

6. Solve the equation with factoring by grouping.

$$18x^2 + 24x + 15x + 20 \;=\; 0$$

$$(6x + 5)(3x + 4) = 0$$

$$x = \frac{-5}{6} \qquad x = \frac{-4}{3}$$

7. Factor the expression.

$$x^2 - x - 72$$

$$(x - 9)(x + 8)$$

8. Solve the equation.

$$7x^2 + 20x + 18 \;=\; 4x^2 + 3x - 2$$

$$3x^2 + 17x + 20 = 0$$

$$(3x + 5)(x + 4) = 0$$

$$x = \frac{-5}{3} \qquad x = -4$$